Book Review

GUSTAFSSON, STEN E. : "A theory for optimal PI-control of multivariable linear systems". Acta Polytechnica Scandinavica, Mathematics and Computer Science Series No. 27. Helsinki 1975. 31 pp. ISBN 951-666-069-X.

The linear-quadratic control problem with a performance index for regulator problems in the process industry is treated for step disturbances. In the performance index weight is put on the output vector, on the time derivative of this vector, and on the time derivative of the control vector. The resulting control law is of proportional-integral-type. Conditions for the existence of the control law and for the stability of the controlled system are derived. Further, the control problem is extended to regulation of the mean value of an output vector.
Some properties of the derived control laws are illustrated through digital simulation for two systems. One is a system of fifth order, the other is a system of 12th order describing the dynamics of a 10 plate distillation column.

ERRATUM

The acknowledgment at the foot of page 73 in the preceding issue of this Journal should read :
"This work was initiated during a visit to the University of Kent by M. Pusterla, sponsored by the British Research Council".
The work alluded to is of course "A method for computing Feynman amplitudes with branch cuts" by J. S. R. Chisholm, A.C. Genz and M. Pusterla.